

REMARKS

Claims 1-6 are pending in this application. By this Amendment, claims 1, 2 and 6 are amended. Claims 2 and 6 are amended only to correct capitalization for consistency and not in response to a rejection of the claims. No new matter is added.

I. Specification

The Abstract of the Disclosure is objected to for containing the word "comprising."

The Abstract is amended to remove the word.

II. Claim Rejections Under 35 U.S.C. §102

Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent 6,479,193 to Maeda. The rejection is respectfully traversed.

Maeda fails to disclose each and every feature recited in the rejected claims, as amended. For example, Maeda fails to disclose a holographic recording material composition used for storing optical information as a spatial variation of refractive index, comprising: (a) a compound having at least one polymerizable functional group; (b) a photopolymerization initiator; and (c) a silica sol being a stable dispersion of colloidal silica particles having an average particle diameter of from 4 to 30 nm.

Maeda discloses an optical recording film and a process for the production of the film including a composition for optical recording (column 1, lines 12-15). The optical recording film comprises a gel having a network structure of an inorganic substance and a polymer which is from a photopolymerizable compound (A) and present in the network structure in the gel, the gel containing an optical recording-induced difference in the network structure of the gel. Further, there is provided a film for optical recording, which comprises a gel having a network structure of an inorganic substance, a photo-polymerizable compound (A) and a photoinitiator (B), the photopolymerizable compound (A) and the photoinitiator (B) being contained in the network structure, i.e., the gel (column 2, line 66 - column 3, line 12).

Thus, Maeda specifically discloses a gel having a network structure of an inorganic substance. In contrast, amended claim 1 recites a silica sol being a stable dispersion of colloidal silica particles having an average particle diameter of from 4 to 30 nm. As a gel and a sol have forms which are structurally different from one another, the gel disclosed in Maeda does not correspond to the silica sol recited in the amended claims (see, for example, the Kirk-Othmer Concise Encyclopedia of Chemical Technology, 4th Edition, John Wiley & Sons, Inc., New York, 1999, pp. 1804-1806 (copy attached)). As described in the cited reference, colloidal silica is a stable aqueous dispersion or sol of discrete amorphous silica particles having diameters of 1 to 100 nm. Silica sols do not gel or settle out of solution for at least several years of storage. In contrast, a silica gel is a coherent, rigid, continuous three-dimensional network of spherical particles of colloidal silica. As Maeda fails to disclose each and every feature recited in the rejected claims, withdrawal of the rejection is respectfully requested.

Claims 1-5 are rejected under 35 U.S.C. §102(b) as anticipated by JP 2003-084651 to Kojima. The rejection is respectfully traversed.

Kojima discloses a volume hologram recording medium which has various functions possessed by an inorganic particulate and the workability and ease of molding possessed by a macromolecule in combination. The composition for the volume hologram recording contains (a) a compound (functional compound) having \cong one polymerizable functional group, (b) a photopolymerization initiator, and (c) inorganic particulates (Abstract of Kojima).

The Office Action alleges that Kojima discloses colloidal silica particles having a diameter less than 200 nm and refers to the Abstract, as well as paragraphs [0030] and [0032] to support the statement. Paragraph [0030] of the English language translation states that the particle size of the non-subtlety particle of component c is set to 400 nm or less. Paragraph

[0032] goes on to state that "although it will not be limited especially if it is the non-subtlety particle which can attain the object of this invention as a component (c) for example, titanium oxide, silicon oxide." Thus, it appears that Kojima discloses that if the non-subtlety particle is silicon oxide that the particle size is not set to 400 nm or less.

Additionally, the inorganic particulates described as component (c) in Kojima do not correspond to a silica sol being a stable dispersion of colloidal silica particles having an average particle diameter of from 40 to 30 nm. In the examples of Kojima, the particle size of the silica particle in dispersion liquid was measured to be 97.1 nm in the middle value (see paragraph [0043]). Therefore, the silica particles disclosed in Kojima are not within an average particle diameter of from 4 to 30 nm. Thus, withdrawal of the rejection of claims 1-5 is respectfully requested.

Claims 1, 2 and 4-6 are rejected under 35 U.S.C. §102(e) as anticipated by U.S. Patent Application Publication No. 2004/0096776 to Tanigawa. The rejection is respectfully traversed.

Tanigawa fails to disclose each and every feature recited in the rejected claims. Rather, Tanigawa discloses a volume phase-type hologram recording material to be used for recording intensity distribution of light and shade of a light interference pattern as a change in refractive index (paragraph [0001]). The composition comprises a thermoplastic resin (A) which is soluble in an organic solvent, a radical polymerizable compound (B) which is solid at an ordinary temperature and at ordinary pressure and at least one radical polymerizable unsaturated double bond, a plasticizer (C) and a photopolymerization initiator (D) (see paragraph [0013]). The hologram recording material composition of Tanigawa also contains additives, such as a thickener, a compatibility adjusting agent, a heat polymerization inhibitor, and a chain transfer agent and a solvent, if necessary (paragraph [0098]). Inorganic fine particles and organic fine particles can be used as the thickener. Examples of the inorganic

fine particles include silica gel fine particles. The diameter of the particles can be smaller than the film thickness of the hologram and is preferably 0.1 to 20 nm (paragraph [0099]).

As discussed above, silica gel structurally differs from a silica sol as recited in the amended claims. As Tanigawa specifically discloses use of a silica gel, Tanigawa fails to disclose each and every feature recited in the rejected claims. Thus, withdrawal of the rejection of claims 1, 2 and 4-6 is respectfully requested.

III. Claim Rejections Under 35 U.S.C. §103

Claim 6 is rejected under 35 U.S.C. §103(a) as unpatentable over Maeda. The rejection is respectfully traversed.

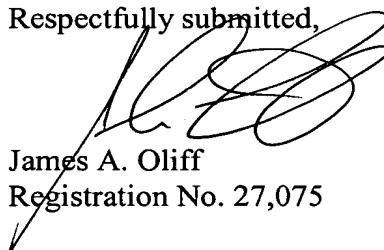
Claim 6 is allowable for its dependency on independent claim 1 for the reasons discussed above, as well as for the additional features recited therein. Thus, withdrawal of the rejection is respectfully requested.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-6 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachments:

Petition for Extension of Time

Amended Abstract

Kirk-Othmer Concise Encyclopedia of Chemical Technology, pp. 1804-1806

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